REMARKS

Claims 10 and 13-27 are pending. Independent claims 10 and 21 are amended herein to explicitly recite that the ASE noise is concentrated in a lasing peak separated in frequency from wavelengths allocated to communication channels. Support for these amendments is found throughout the Application as filed, and in particular at Figure 3, and p. 3, lines 14-15: "Advantageously the network is configured such that the ASE lasing peak is located in a wavelength region of the spectrum separate to that of the communications channels." No new matter is added.

The Office has maintained the rejection of claims 10 and 21 under 35 USC § 103 as being obvious over the three-way combination of references "Closed Cycle Lasing of ASE Noise in a WDM Ring Network," ("Saleheen"); WO 02/080409 ("Caprino"); and U.S. Pat. No. 7,019,894 ("Stentz").

In particular, Saleheen is cited as disclosing a WDM optical ring network wherein ASE noise circulating in the right in a lasing mode is used to clamp a gain of each doped fiber optical amplifier. Saleheen does not teach or suggest such an optical ring network in which the ASE noise is concentrated in a lasing peak separated in frequency from wavelengths allocated to communication channels. Indeed, quite the opposite: Saleheen clearly discloses that ASE noise appears superimposed on wavelengths used for communications. See, Figures 2-4, depicting ASE noise, particularly on channel 4. "As channel 4 is never dropped, ASE noise at that channel gradually builds up due to the noise concatenation at the EDFAs." Saleheen, p. 559, left column, just above Fig. 3 (emphasis added). Saleheen fails to teach or suggest ASE in a WDM optical ring network that is maintained separately from communication channels. For at least this reason, the § 103 rejections of claims 10 and 21 are improper and must be withdrawn.

In general, Saleheen discusses ASE as a detrimental phenomenon that must be controlled.

> In this paper, we present the evolution of ASE noise buildup in closed cycle lasing and the effects of feedback controlled Variable Optical Attenuators (VOA) on the lasing noise in a ring network. The VOAs are designed to limit the uncontrolled noise or signal buildup in closed cycle loops to prevent any damage and/or network performance degradation. To this end, our results provide both quantitative and qualitative insight of the correlation between the lasing noise and VOA parameters in optical networks.

p. 558, left column, second paragraph (emphasis added). This is seen in the fact that, as described above, the ASE alters communication channel wavelengths.

In stark contrast, embodiments of the present invention

> deliberately allow[] ASE to re-circulate around the ring and to give rise to a lasing peak that re-circulates around the ring. The spectral response in the ring is configured such that the lasing peak clamps the gain of each optical amplifier within the ring through a process of population inversion to clamp the overall population inversion of the optical amplifier chain.

p. 2, lines 6-10 (describing a prior art feature incorporated into inventive embodiments) (emphasis added). That is, ASE is beneficially used to limit gain, and it is separated in frequency from communication channels to avoid interfering with them.

Saleheen teaches a fundamentally different approach to ASE than that taken by the present inventors. Accordingly, Saleheen teaches away from the inventors' approach, and one of skill in the art would have no motivation to consider Saleheen or its teachings in attempting to solve the problem of what happens when a beneficial, controlled ASE peak disappears due to a break in the fiber. For at least this additional reason, the § 103 rejections of claims 10 and 21 based on Saleheen are improper and must be withdrawn.

All dependent claims include all limitations of their respective parent claim(s), and thus also define patentable nonobviousness over the art of record. All pending claims are now in condition for allowance, which prompt action is hereby respectfully requested.

Respectfully submitted,
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